

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 64-047055

(43)Date of publication of application : 21.02.1989

(51)Int.Cl.

H01L 21/90

H01L 21/95

(21)Application number : 62-204354

(71)Applicant : SANYO ELECTRIC CO LTD

(22)Date of filing : 18.08.1987

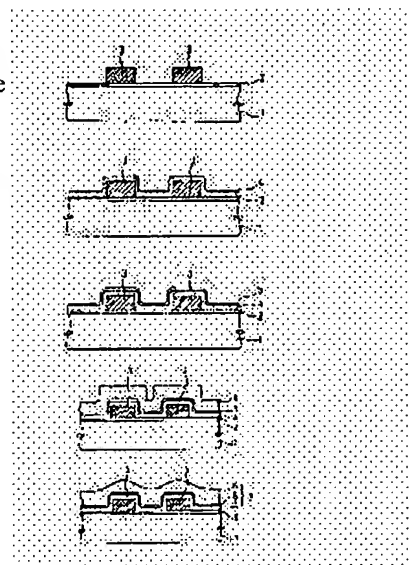
(72)Inventor : HORII TADASHI

## (54) MANUFACTURE OF SEMICONDUCTOR DEVICE

### (57)Abstract:

**PURPOSE:** To prevent a conductive layer from decreasing in dimension and increasing in resistance value by a method wherein a silicate glass layer is applied to the conductive layer face provided onto one face of a semiconductor substrate and the coated layer is subjected to a heat treatment in an oxidizing atmosphere to make its face flat and a silicon oxynitride layer is interposed between the silicate glass and the conductive layer.

**CONSTITUTION:** A superficial insulating film 2 is provided onto the surface of a semiconductor substrate 1 and conductive layers 3 and 3 are selectively formed. A silicon oxide layer 4 is built on the semiconductor substrate 1 including the conductive layers 3 and 3. A silicon oxynitride layer 5 is formed in film covering the silicon oxide layer 4. A silicon glass layer 6 is formed covering the surface of the silicon oxynitride layer 5. A laminated body consisting of the silicon oxide layer 4, the silicon oxynitride layer 5, and the silicate glass oxide 6 which covers the conductive layers 3 and 3 is subjected to a heat treatment in the oxidizing atmosphere of O<sub>2</sub> gas alone or O<sub>2</sub> gas mixed with H<sub>2</sub> gas and thereby the silicate glass layer 6 is made to be fluidized to flow, so that the large steps on the surface is made to be leveled to be flat.



## LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office